

ABSTRACT OF THE DISCLOSURE

A technique efficiently searches a hash table containing a plurality of “ranges.” In contrast with previous implementations, the technique performs fewer searches to locate one or more ranges stored in the hash table. To that end, the hash table is constructed so each hash-table entry is associated with a different linked list, and each
5 linked-list entry stores, *inter alia*, “signature” information and at least one pair of values defining a range associated with the signature. The technique modifies the signature based on the results of one or more preliminary range checks. As a result, the signature’s associated ranges are more evenly distributed among the hash table’s linked lists. Thus,
10 the linked lists are on average shorter in length, thereby enabling faster and more efficient range searches. According to an illustrative embodiment, the technique is applied to flow-based processing implemented in an intermediate network node, such as a router.